

**STANDARD FOR VERTICAL AND
HORIZONTAL CLEARANCES OF
OVERHEAD ELECTRIC POWER
AND TELECOMMUNICATION
LINES AS RELATED TO
ROADS**



THE INDIAN ROADS CONGRESS



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STANDARD FOR VERTICAL AND HORIZONTAL CLEARANCES OF OVERHEAD ELECTRIC POWER AND TELECOMMUNICATION LINES AS RELATED TO ROADS

1. INTRODUCTION

1.1. The 'Standard for Vertical and Horizontal Clearances of Overhead Electric Power and Telecommunication Lines as Related to Roads' was prepared by the Specifications and Standards Committee and later discussed by the Council in their meeting held at Trivandrum in September 1966. The suggestions made by the members of the Council were considered by the Specifications and Standards Committee at their various meetings and the revised standard was approved by the Executive Committee in their meeting held on the 13th March, 1969 and then by the Council in their 71st meeting held at Bhubaneswar on the 26th and 27th May, 1969 for being published as an approved standard of the Indian Roads Congress.

1.2. Overhead electric power and telecommunication lines crossing a road or running within the road land should be provided with adequate clearances so that safe use of the road is not affected. It is necessary to fix standards for these clearances in accordance with the maximum permissible dimensions of vehicles.

1.3. Some of the Central and State Government Departments have issued executive directives in this matter, but there is a lack of uniformity in these directives. Standards regarding horizontal and vertical clearances are suggested here for uniform adoption on all roads throughout the country.

2. SCOPE

2.1. These standards shall apply to overhead electric power and telecommunication lines erected within the road land. The standards shall not apply to overhead power lines meant for tram cars and trolley buses.

2.2. The standards shall not be taken to confer authority for over-riding any statutory provisions on the subject.

3. DEFINITIONS

3.1. **Vertical clearance** is the clear vertical distance between carriageway crown and the lowest point of any overhead conductor installation which includes the conductor wire, bearer wire, guard wire, stay wire, guard cradle, or screen. The lowest point should be determined after accounting for the maximum possible sag in the lowest member of the conductor installation.

3.2. **Horizontal clearance** is the horizontal distance, measured at right angles to road alignment, between roadway or carriageway edge and a pole carrying an overhead utility line, or any pole-supporting structure.

4. VERTICAL CLEARANCES

4.1. Minimum vertical clearances for different categories of overhead conductor installations shall be as under :

- | | |
|--|-----------|
| (i) For ordinary wires and lines carrying very low voltage upto and including 110 volts, e.g., telecommunication lines | 5.5 metre |
| (ii) For electric power lines carrying voltage upto and including 650 volts | 6.0 metre |
| (iii) For electric power lines carrying voltage exceeding 650 volts | 6.5 metre |

These clearances have been fixed taking into consideration the overall height of vehicles and the statutory provisions of the Indian Electricity Rules.

4.2. Guard cradle or screen should be provided for electric power lines carrying voltage exceeding 110 volts while crossing the highway. The cradle should extend desirably over the full right-of-way. However, guards may be omitted in the case of extra high voltage lines strung on self-supporting towers designed with adequate factor of safety.

4.3. In urban areas, in consideration of local factors such as temple cars, tazia processions, fire-fighting equipment, etc., the competent authority may prescribe higher clearances than those specified above.

5. HORIZONTAL CLEARANCES

5.1. Poles carrying overhead power and telecommunication lines shall, excepting the urban areas, be erected at least 10.0 metres away from the nearest edge of the roadway, provided also that these are at a minimum distance of 5.0 metres from the nearest line of avenue trees. In case of roads having, at present, a narrower roadway than that prescribed in the standards in force, this horizontal clearance shall be reckoned from what will be the ultimate edge of the roadway after widening to the said standards.

5.2. The standards for horizontal clearance laid down above shall not apply to roads situated in mountainous country. In such areas, poles should be erected preferably on the valley side, and as far away from the edge of the road as practicable.

5.3. The horizontal clearances in respect of poles erected for the purpose of street lighting shall be as under :

- | | |
|-------------------------------------|---|
| (i) For roads with raised kerbs | Minimum 300 mm from the edge of the raised kerb; 600 mm being preferable. |
| (ii) For roads without raised kerbs | At least 1.5 metre from the edge of the carriageway, subject to minimum of 5.0 metre from the centre line of the carriageway. |

5.4. The clearances given in para 5.3 shall apply to poles carrying electric power and telecommunication lines in urban situations.

5.5. The clearances mentioned in paras 5.1 and 5.3 shall be deemed to apply not only to poles but pole-supporting structures as well.

6. Plate 1 illustrates the standards specified above.

WHERE GUARD CABLE OR SCREENS ARE PROVIDED, VERTICAL CLEARANCE SHOULD BE RECKONED FROM THEIR LOWEST POINT ABOVE THE CARRIAGEWAY (VIOE CLAUSE 3.1)

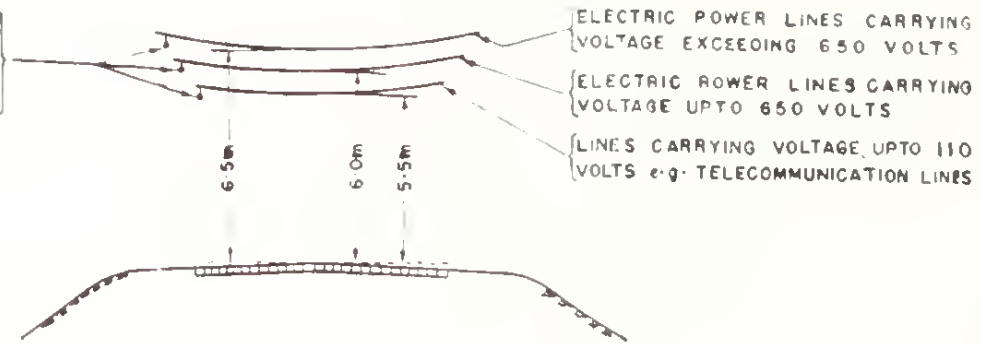


FIG-1 MINIMUM VERTICAL CLEARANCES

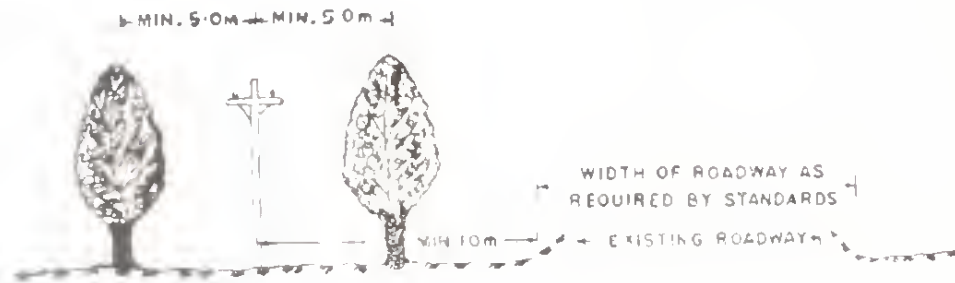


FIG-2 MINIMUM HORIZONTAL CLEARANCE FOR POWER AND TELECOMMUNICATION LINES ON RURAL ROADS, EXCEPT
(i) FOR POLES ERECTED FOR STREET LIGHTING AND
(ii) FOR POLES ERECTED IN MOUNTAINOUS COUNTRY

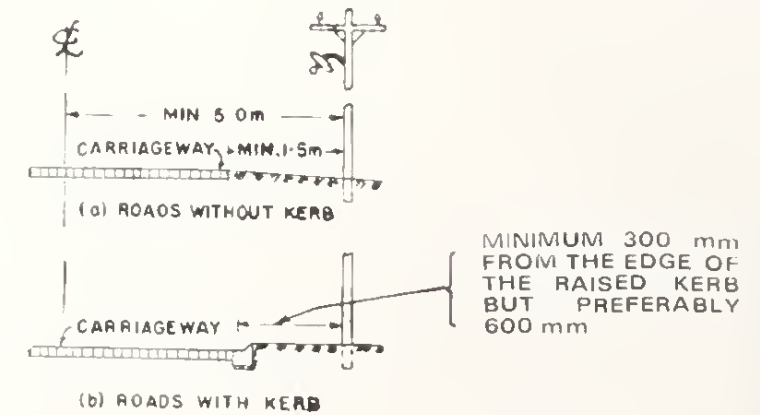


FIG-3 MINIMUM HORIZONTAL CLEARANCES FOR STREET LIGHTING POLES ON RURAL ROADS AND FOR TELECOMMUNICATION, ELECTRIC POWER OR STREET LIGHTING POLES ON URBAN ROADS

VERTICAL AND HORIZONTAL CLEARANCES OF OVERHEAD ELECTRIC POWER AND TELECOMMUNICATION LINES

